Patent Claims

1. A power supply in which a feed voltage ($U_s$) is routed through at least one longitudinal branch to at least one output, the at least one branch having a disconnect fuse formed as a controlled semiconductor switch (SW1) and a monitoring unit (UWE) being set up to supply a disconnect signal (s1) to the semiconductor switch when there are changes in voltage or current beyond pre-definable tolerances,

   wherein

   at least one series circuitauxiliary semiconductor switch (H1A), likewise triggered by the monitoring unit (UWE) and a ballast resistor (R1A), is connected in parallel to the semiconductor switch (SW1) and in the event of an overload absorbs a substantial portion of the overload current in the branch.

2. The power supply as described in Claim 1, wherein the monitoring unit (UWE) is set up to keep the auxiliary semiconductor switch (H1A) at least essentially disconnected during normal operation, but to switch it on in the event of an overload while simultaneously disconnecting the main semiconductor switch (SW1).

3. (Canceled)

4. The power supply as described in Claim 1, wherein the pre-definable short-circuit current ($I_{K1}$) of the branch is essentially determined by the ballast resistor (R1A) and the feed voltage ($U_s$), so that $R1A \approx U_s/I_{K1}$.

5. The power supply as described in Claim 1, wherein the semiconductor switches (SW1, H1A) are of the FET type.

6. The power supply as described in Claim 5, wherein the semiconductor switches (SW1, H1A) are of the self-locking FET type, the gate of the main semiconductor switch (SW1) being connected to the source and triggered by an output of the monitoring unit (UWE) via a Zener diode (ZD1) and the gate of the auxiliary semiconductor switch (H1A) being triggered directly by the same output.

7. The power supply as described in Claim 1, wherein the ballast resistor (R1A) is formed as a composite carbon resistor.